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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/934,698	08/23/2001	Johannes Hubertus Josephina Moors	P 282823 P-0204.020-US	8408

909 7590 09/16/2002
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EXAMINER

NGUYEN, HUNG

ART UNIT PAPER NUMBER

2851

DATE MAILED: 09/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/934,698

Applicant(s)

MOORS ET AL.

Examiner

Hung Henry V Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Claim Objections

1. Claim 26 is objected to because the preamble of claim 26 is directed to a mask handling device and the claim depends from a method claim. Appropriate correction is required.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "heater, plate, cooler" (see claims 28-29) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

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4. Claims 1-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Kuo (U.S.Pat. 6,359,747).

With respect to claims 1-24, Kuo (fig.4A) teaches an exposure apparatus for transferring a predetermined pattern formed on a mask (421) onto a substrate (425) and comprising all of the structures set forth in the instant claims such as: a radiation system (401) for supplying a projection beam of radiation; a support structures for supporting patterning structures (420); a substrate table is an inherent device for supporting the substrate (425); a projection optical system (422) for projecting the patterned beam onto a target portion of the substrate; and particle shield generated by a pair of conductive poles (423,424) and generating an electromagnetic field above the surface of the substrate. It is noticed that the functional recitation that "so as to prevent particles form becoming incident on an object to be shield" has not been given patentable weight because it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham*, 2 USPQ 1647 (1987).

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-27, 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Ward (U.S.Pat. 4,695,732).

With respect to claims 1-27, and 30, Ward et al (fig.1) discloses an electron lithography apparatus/method comprising all structures set forth in the instant claims including: : a radiation system (13) for supplying a projection beam of radiation; a support structures for supporting

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patterning structures (1); a substrate table (12) for supporting the substrate (3); a projection optical system is an inherent device of an exposure apparatus for projecting the patterned beam onto a target portion of the substrate; and particle shield for generating an electromagnetic field (see col.1, lines 50-53); a chamber (8). It is noticed that the functional recitation that "so as to prevent particles form becoming incident on an object to be shield" has not been given patentable weight because it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham*, 2 USPQ 1647 (1987).

6. Claims 1-27, 30 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Klebanoff (U.S.Pat. 6,169,652).

With respect to claims 1-27, and 30, Klebanoff discloses an exposure apparatus comprising all structures as set forth in the claims including a light source (41); a reticle table for holding a reticle; a mask table for holding a mask, a projection optical system (46) and a particle shield for generating an electromagnetic field so as to prevent particles deposition on an object to be shield (see fig.1 and abstract).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuo (U.S.Pat. 6,359,747) or Ward (U.S.Pat. 4,695,732) or Klebanoff in view of McCullough (U.S.Pat. 6,445,439).

With respect to claims 28-29, Kuo or Ward or Klebanoff discloses substantially all limitations of the instant claims as discussed except for a heater, a plate or a cooler as recited in claims 28-29. However, these structures are well known per se for the purpose of maintaining the temperature of the mask within a predetermined temperature. For example, McCullough (fig.1) discloses an exposure apparatus having a thermal management device (16) for maintaining the temperature of the mask at a desired temperature. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a thermal management device as taught by McCullough into the apparatus of Kuo or Ward or Klebanoff for the purpose of controlling the temperature of the mask and thus improving the quality of the images of the exposure device.

Prior Art Made of Record

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

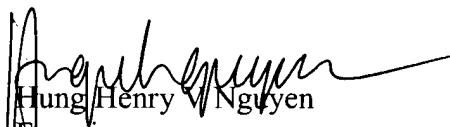
Groves et al (U.S.Pat. 6,137,122) discloses an exposure apparatus where an electromagnetic field is generated surrounding the substrate and Aoki et al teaches a method and apparatus for deflecting charged particles and have been recited for technical background.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V Nguyen whose telephone number is 703-305-6462. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 703-308-2847.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.


Hung Henry V Nguyen
Examiner
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September 12, 2002